



Kelly Shaw

MBBS, MPH, PhD, FRACGP, FAFPHM, is Specialist Medical Advisor, Population Health, Department of Health and Human Services, Hobart, Tasmania. kelly.shaw@dhhs.tas.gov.au

Jane Zochling

MBBS, FRACP, MMed(ClinEpi), PhD, is Research Fellow, Menzies Research Institute, University of Tasmania.

Tania Winzenberg

MBBS, FRACGP, MMedSc(ClinEpi), PhD, is Research Fellow – General Practice, Menzies Research Institute, University of Tasmania.

Nonpharmacological interventions for rheumatoid arthritis

This series of articles facilitated by the Cochrane Musculoskeletal Group (CMSG) aims to place the findings of recent Cochrane musculoskeletal reviews in a context immediately relevant to general practitioners. This article considers nonpharmacological interventions for rheumatoid arthritis.

Rheumatoid arthritis (RA) is a chronic, systemic autoimmune disease characterised by persistent inflammation of synovial joints, often leading to joint destruction and disability. The major goals of treatment are to relieve pain, reduce inflammation, slow down or stop joint damage, prevent disability, and preserve or improve the patient’s sense of wellbeing and ability to function.

Nonpharmacological interventions are an important part of the management of RA, particularly chronic RA.¹ A range of interventions are available and patients may ask for

guidance from their general practitioner on the usefulness or otherwise of these interventions. In this article we address: occupational therapy (OT), balneotherapy (bathing in hot mineralised water, either with minerals added or in naturally occurring hot springs), tai chi, acupuncture, and low level laser therapy. The review results for each therapy are summarised in *Table 1* and how these results might affect practice are shown in *Table 2*.

Conclusion

With the exception of some aspects of OT, there was insufficient evidence to demonstrate the effectiveness

Table 1. Key results of systematic reviews

Occupational therapy²

- The review included 38 studies (randomised controlled trials [RCTs], controlled clinical trials and uncontrolled studies) in 1700 adults with RA. Types of OT intervention considered were: comprehensive OT with elements of motor function training, skills training, instruction on joint protection, counselling, advice on assistive devices, and provision of splints
- Numbers of studies assessing each intervention were small and the methodological quality of studies poor, therefore conclusions were based on the evidence judged to be of highest methodological quality
- There was strong evidence that instruction on joint protection and limited evidence that comprehensive OT improved functional ability
- Provision of splints may decrease pain and improve grip strength but reduce dexterity
- Motor function training does not affect pain or functional ability
- There were insufficient data to determine the effectiveness of advice about assistive devices, skills training or counselling

Balneotherapy³

- The review included six trials with 355 adults with RA. Treatment was 2–4 weeks with assessment at 3 months post-treatment. A range of minerals was used
- Because most studies of balneotherapy are of poor methodological quality, the evidence is not clear if overall this therapy improves RA symptoms or function
- In some studies, participants experienced improved morning stiffness, pain, walk time and ability to undertake daily activities

Tai chi⁴

- The review included four studies with 202 adults with RA. Where participants attended classes, treatment duration was 8–10 weeks and sessions were 60–90 minutes. Control groups included in the review did not attend classes
- Because most studies of tai chi are of poor methodological quality, the evidence is not clear if this therapy improves RA symptoms or function, pain or quality of life

of these nonpharmacological therapies in the treatment of RA or to identify patient groups who are more likely to benefit from such treatment. Until more evidence to support practice becomes available, case-by-case assessment using clinical judgment will be needed to make decisions about the usefulness of these treatments for

individual patients. This may also be guided by the patient's circumstances (eg. availability of time, financial situation), patient preference and accessibility of treatment options. The results of these reviews cannot be extrapolated to other populations such as children or those with other inflammatory joint conditions.

Conflict of interest: none declared.

References

1. Australian Acute Musculoskeletal Pain Guidelines Group (AAMPGG). Evidence based management of acute musculoskeletal pain. Brisbane: Australian Academic Press, 2003.
2. Steultjens E, Dekker J, Bouter L, van Schaardenburg D, van Kuyk M, van den Ende C. Occupational therapy for rheumatoid arthritis. Cochrane Database of Systematic Reviews 2004, Issue 1. Art. No.:CD003114.
3. Verhagen A, Bierma-Zeinstra S, Cardoso J, deBie R, Boers M, de Vet H. Balneotherapy for rheumatoid arthritis. Cochrane Database of Systematic Reviews 2004, Issue 1. Art. No.:CD000518.
4. Han A, Judd M, Robinson V, Taixiang W, Tugwell P, Wells G. Tai chi for treating rheumatoid arthritis. Cochrane Database of Systematic Reviews 2004, Issue 3. Art. No.: CD004849.
5. Casimiro L, Barnsley L, Brosseau L, Milne S, Robinson V, Tugwell P, Wells G. Acupuncture and electroacupuncture for the treatment of rheumatoid arthritis. Cochrane Database of Systematic Reviews 2005, Issue 4. Art. No.: CD003788.
6. Brosseau L, Robinson V, Wells G, et al. Low level laser therapy (classes I, II and III) for treating rheumatoid arthritis. Cochrane Database of Systematic Reviews 2005, Issue 4. Art. No.:CD002049.

afp CORRESPONDENCE email: afp@racgp.org.au

Table 2. Putting evidence into practice

Mrs Joyner, aged 50 years, has RA that causes pain and stiffness, problems with grasp and hand function, and difficulty performing daily tasks such as cooking and shopping. She mentions that she saw an article in a magazine in your waiting room, describing the benefits of 'hot tubs' for arthritis. She wants to discuss her treatment options for her RA as: 'The drugs I'm on have some pretty nasty side effects. Are there treatments I can have to reduce the amount of medication I'm taking?'

What can you advise based upon the evidence from the review?

You tell Mrs Joyner that, although there is no conclusive evidence that hot tubs improve symptoms or function in people with RA, hot bath therapy with mineralised water for 2–4 weeks has been shown to improve morning stiffness, pain and mobility in some patients. Therefore she may like to try a hot tub for 2–4 weeks to see if her symptoms improve. Alternatively, Mrs Joyner may like to see an occupational therapist for assistance with hand function and instruction on joint protection and the use of assistive devices, or try low level laser therapy for hand pain and stiffness. You tell her that it is not clear from the evidence whether tai chi or electroacupuncture will help her symptoms or function, however in some people they have been shown to improve joint movement and pain respectively. However, while these treatments may provide some benefits, their use will not replace the need for drug therapy to relieve symptoms and to prevent her joints from being damaged by her RA.

- Tai chi did not improve participants' ability to do chores, joint tenderness, grip strength or number of swollen joints
- In some studies, tai chi improved the range of motion of the ankle, hip and knee, and some participants felt improvement
- There are insufficient data to determine how much, how intense and for how long tai chi should be done to see benefit

Acupuncture and electroacupuncture⁵

- The review included two studies of 84 adults with RA. One study used acupuncture, the other electroacupuncture
- Because the studies were of poor quality, it is not clear if these therapies improve RA symptoms or function
- Acupuncture did not improve pain, number of swollen and tender joints, disease activity, overall wellbeing, laboratory results or pain medication needed compared with placebo
- Electroacupuncture of the knee resulted in improved knee pain compared with placebo. Pain relief lasted up to 4 months

Low level laser therapy⁶

- The review included six studies, five of which were placebo controlled trials of 222 participants, with 130 randomised to laser therapy. Laser therapy was given mostly on the hands 2–3 times per week for 4 weeks. Different wavelengths and dosages were given
- Laser therapy decreased pain and morning stiffness, and increased hand flexibility
- Range of motion, function, swelling and grip strength were not significantly improved compared with placebo
- Because most of the studies tested laser therapy on the hand only, it is not known whether it would affect other joints of the body in the same way
- Although longer administration times and shorter wavelengths produced better effects in some patients, evidence was insufficient to determine whether dose, length of laser administration time and wavelength significantly influenced outcomes